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Making cities food-smart and secure

Bedanga Bordoloi

Etali Sarmah



Sustenance and sustainability Terraces and rooftops can nurture urban agriculture

Urban agriculture can get around some of the challenges ever-burgeoning cities will face in the near future

Cities, which host over half the world's population, have a strategic role to play in developing sustainable food systems and promoting healthy diets. By 2030, it is projected that 60 per cent of the population in developing countries will live in cities. Feeding cities will face multiple challenges such as resource scarcity, climate change, unsustainable production and consumption patterns, and food loss and waste.

Urban agriculture can be part of the solution. The recent Urban Food Policy Pact provides a framework for action by cities to contribute to food security through urban agriculture. Urban agriculture uses resources such as organic waste as compost and waste water for irrigation. Urban residents produce food and serve the local market, impact the urban ecology and compete for land with other urban functions.

There's room for it

Urban agriculture can be practised on private land such as terraces or backyards of residences, on public land such as parks, conservation areas, along the roads, streams and railway lines and on semi-public land such as schoolyards and grounds of educational and health facilities. The practice of urban agriculture promotes economic development through food production, builds social capital, community well-being and civic engagement. Community gardens, farms in city blocks, vertical farms based on hydroponics or aeroponics and aquaculture are some smart urban agriculture models.

As India progresses towards a rapid phase of urbanisation, attempts are being made to build urban agricultural systems. Initiatives such as composting and vermiculture, animal husbandry in peri-urban areas, horticulture activities and terrace farming are increasingly witnessed in numerous cities, including Kolkata, Chennai, Delhi, Mumbai and Hyderabad.

Benefits all round

Urban agriculture can be a sustainable strategy to reduce urban poverty, food insecurity and enhance urban environmental management. It contributes to poverty alleviation, social inclusion of the poor, women empowerment, productive use of vacant plots and reuse of urban waste. Consumers, especially the urban poor, can enjoy access to fresh produce at better prices. Urban growers can sell directly by avoiding intermediaries and spend less time on transport, packaging and storage. Further, urban agriculture can create employment opportunities for disadvantaged groups. The importance of urban agriculture is also being recognised by various organisations such as the United Nations-Habitat and FAO (Food and Agriculture Organisation).

Rapid urbanisation in the developing world is accompanied by a rapid increase in urban poverty and urban food insecurity. This scenario is worsened by food inflation, now a global phenomenon, and one that is likely to continue. Urban agriculture, although not a solution to food insecurity, has the potential to provide millions with access to food and nutrition. Apart from the benefits to the economy, urban agriculture stimulates the development of related micro-enterprises.

Due to the multi-dimensional nature of urban agriculture, policy development and action planning for it should involve multiple stakeholders from sectors such as agriculture, health, waste management and community development. Increasingly this is acknowledged and incorporated in urban planning approaches as in the United Nation's Sustainable Cities programme.

Urban agriculture policies can consider a combination of social, economic and environmental aspects. From the social angle, subsistence agriculture can form part of the livelihood strategies of urban households. The economic angle is primarily market-oriented urban agriculture, involving small-scale, family-based initiatives and larger-scale entrepreneurial farms, run by private investors or producer associations. The environment management factor lies in nutrient recycling, adoption of agro-ecological production methods, eco-sanitation and waste management. Incorporating urban agriculture into the policies and systems of every city will play an important role in unleashing its full potential.

Creating zones

Cities can facilitate the access to urban spaces by having demarcated zones, similar to Pretoria and Beijing. Making an inventory of the available vacant open land within the city by community mapping or GIS-based data and by analysing its suitability for agriculture will be a good starting point for enhancing access to land for urban farming. Giving short- or medium-term leases to organised groups of urban producers for gardening purposes can also help.

Inattentiveness in practising urban agriculture may cause health and environmental risks such as use of contaminated land, inappropriate use of pesticides or raw organic manure leaking into water sources. Increasing pollution, and contamination of the city's waste water with industrial effluents is a major constraint to the continued viability of irrigated farming and aquaculture in urban and peri-urban areas. Clearly earmarking zones and avoiding unscientific intervention where only urban agriculture suited to local conditions and resource availability is practised can reduce possible health and environmental risks.

A growing number of cities are applying multi-stakeholder planning approaches to identify effective ways to integrate agriculture into urban policies and planning. Future policies should create the right framework conditions for reinforcing the practice of urban agriculture as a sustainability tool.

Urban agriculture has the potential to become a vibrant economic sector that quickly adapts to changing conditions and demands, intensifying its productivity and diversifying its functions for the city. Its future will depend on its contributions to the development of a sustainable and resilient city that is inclusive, food-secure, productive and healthy, thus establishing food-smart cities. Figuring out an urban agribusiness model that captures value from available data, integrates multiple revenue models and fosters partnership with relevant stakeholders will help move towards a new era of sustainable food production.

Bordoloi is the Kuwait market leader for EY's Climate Change and Sustainability Services practice. Sarmah is an independent management consultant focusing on Sustainability and Resource Productivity. The views are personal.

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